

**International Conference
on Sustainable Mangrove
Ecosystems**
**Managing a vital resource
for achieving the SDGs and
the Paris Agreement**
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Indonesia**



The need for a
formal, funded and
long term Action
Plan on Mangroves

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**In this
presentation
it is
stressed:**

- The urgent need for a coordinated global action on mangroves
- The contribution of ITTO to the sustainable management of mangroves
- The need to raise questions and develop useful ideas to promote sustainable management of mangrove ecosystems and their resources for the wellbeing of all people
- A call for a new formal ITTO endeavour, specific and of high positive impact on mangroves

We need to act right now more effectively and in a coordinated way, because, for example:

- The IUCN has set alarm bells ringing by warning that more than one in six mangrove species worldwide are in danger of extinction due to coastal development and other factors, including climate change, logging and agriculture.
- We have already lost over half of the world's original mangrove forest area, estimated at 32 million hectares (app. 80 million acres). In 2007, less than 15 million hectares (37 million acres) of mangroves remain.

Source: <http://mangroveactionproject.org/mangrove-loss/>

- More than 35% of the world's mangroves are already gone. The figure is as high as 50% in countries such as India, the Philippines, and Vietnam, while in the Americas they are being cleared at a rate faster than tropical rainforests.

Source: http://wwf.panda.org/about_our_earth/blue_planet/coasts/mangroves/mangrove_threats/

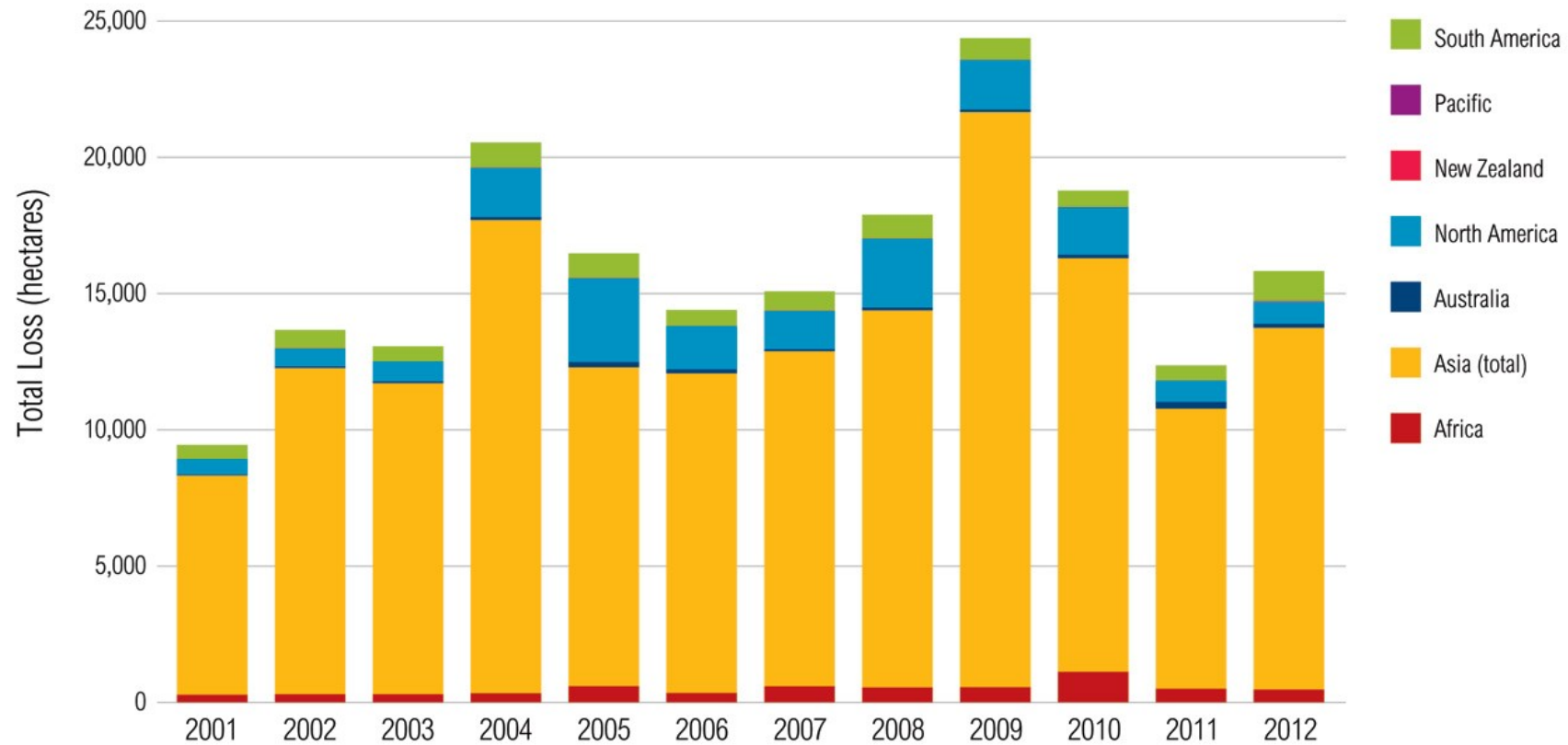
**We also need to
act right now
more effectively
and in a
coordinated
way, because:**

- Current rates of mangrove loss are roughly estimated at around 150,000 hectares (370,050 acres) per year, or about 1% per annum (according to FAO).
- Almost 225,000 metric tons of carbon sequestration potential are lost each year with current rates of mangrove destruction.
- Mangroves take up (sequester) approximately:
 - 1.5 metric tons/hectare/yr of carbon
 - 3.7 lbs/acre/day of carbon (1336 lbs/acre/yr)
- Disturbed mangrove soils release greater than an additional 11 million metric tons of carbon annually.

Source:

<http://seeing.climatecentral.org/#12/40.7298/74.0070?show=lockinAnimated&level=8&unit=feet&pois=hide>

Tree Cover Loss in Mangroves by Year, 2000-2012

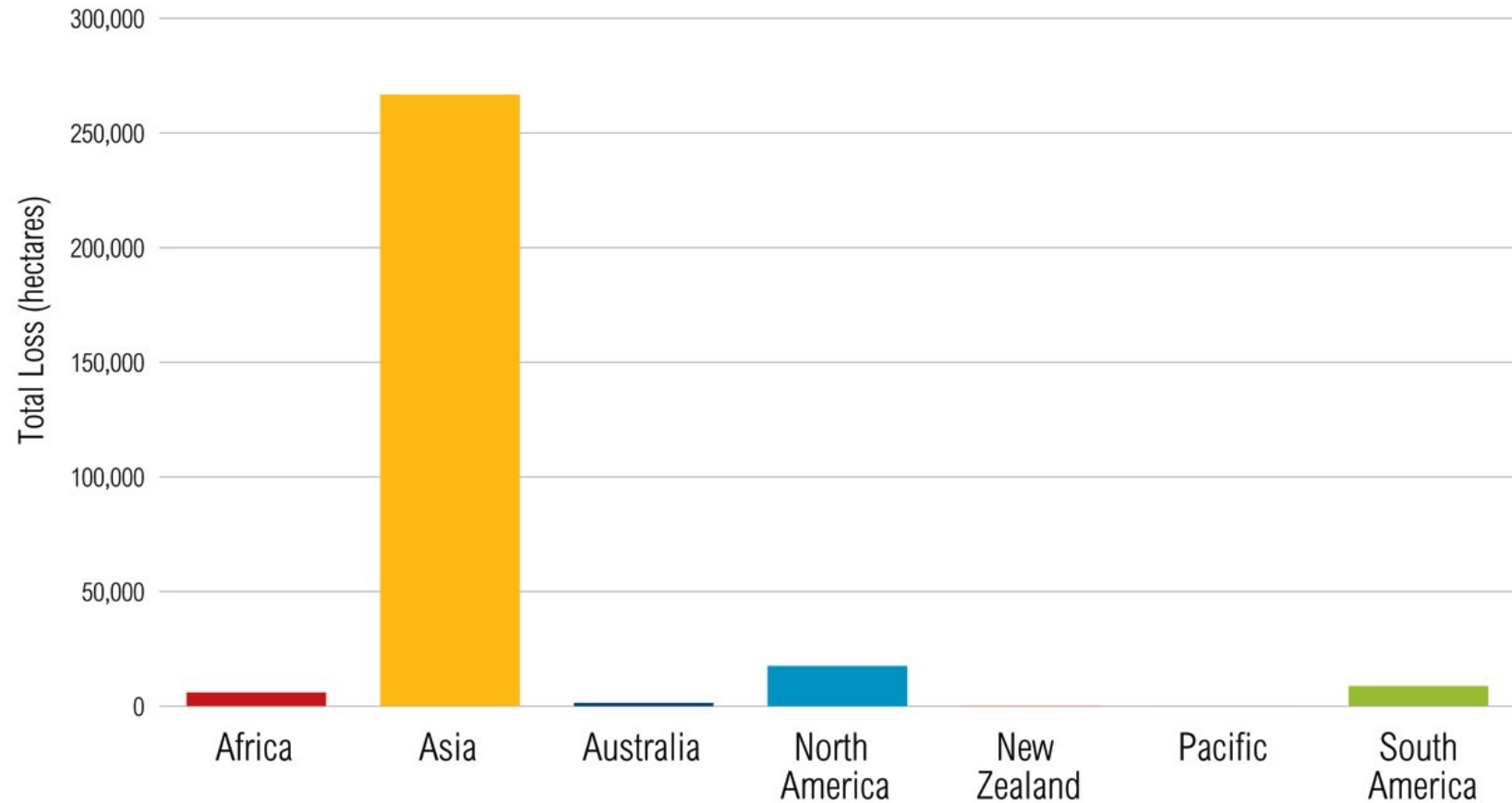


Source: <http://bit.ly/1ztb5Zl>



Source: <http://www.wri.org/blog/2015/02/satellite-data-reveals-state-world%E2%80%99s-mangrove-forests>

Tree Cover Loss in Mangroves by Region, 2000-2012



Source: <http://bit.ly/1ztb5ZI>

 WORLD RESOURCES INSTITUTE

Source: <http://www.wri.org/blog/2015/02/satellite-data-reveals-state-world%E2%80%99s-mangrove-forests>

Erosion is acting progressively, aided by human activities

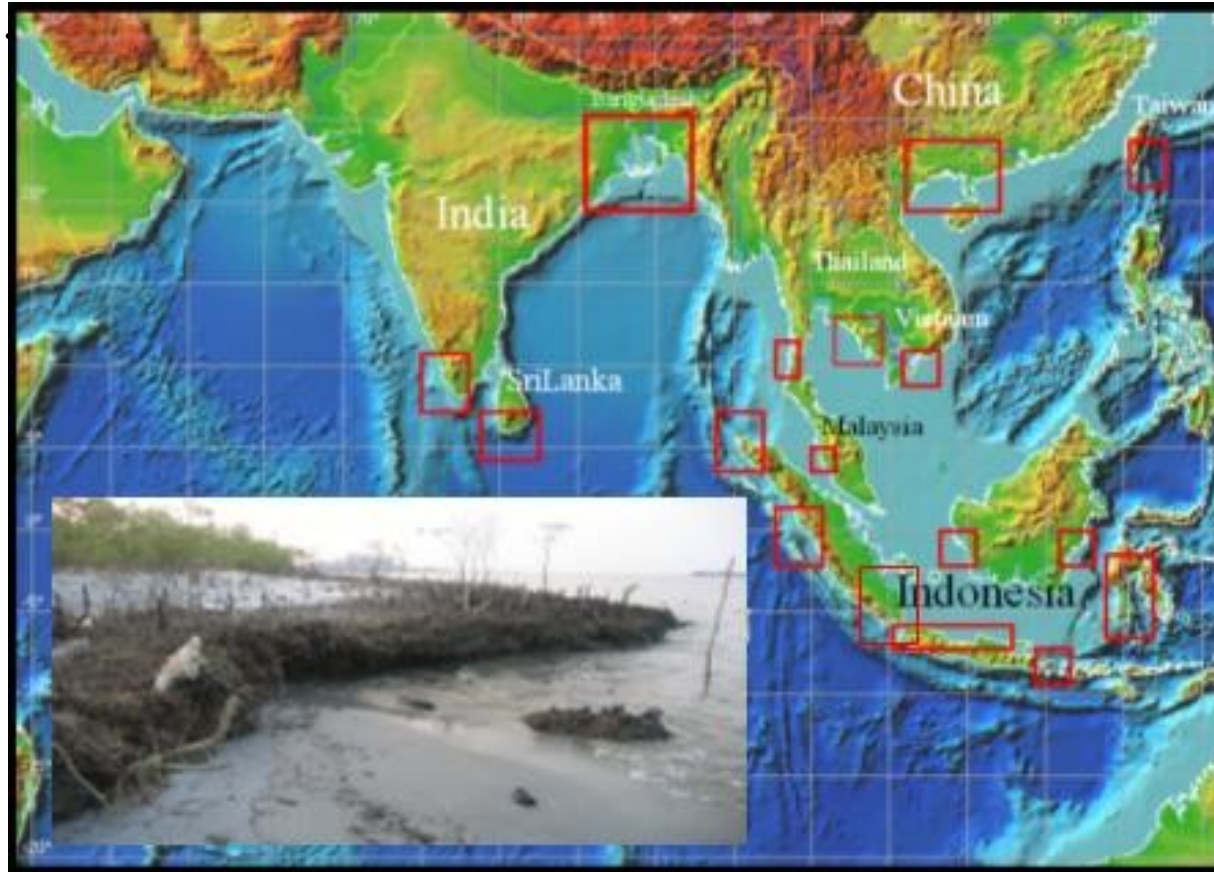
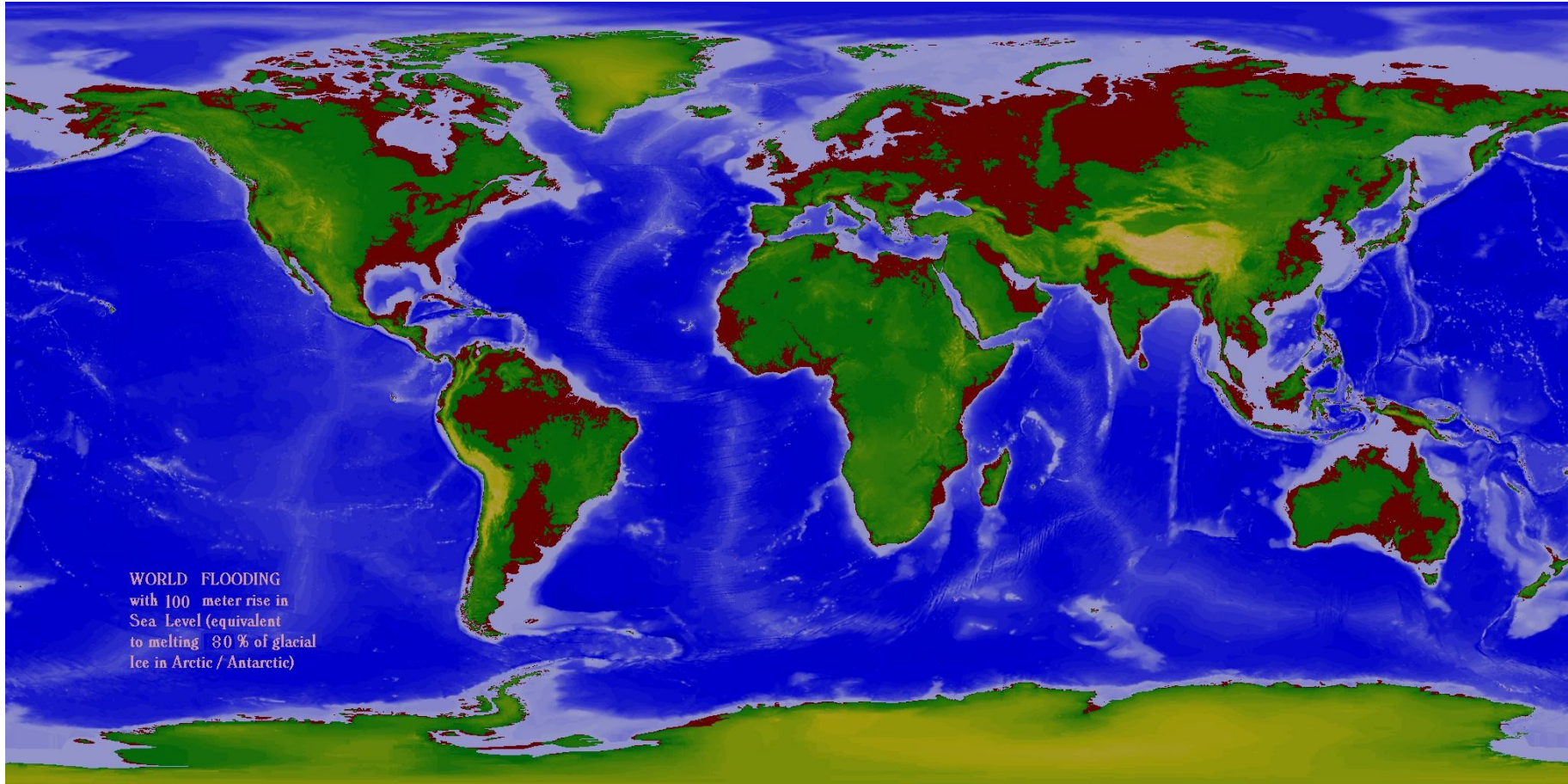


Figure 4.1 Coastal erosion sites reported in Asian and Indian Ocean countries; the inset indicates how clearing of coastal forest such as mangroves has increased the vulnerability of coasts to erosion (base map source from ITDB, 2004). Source: <http://www.fao.org/docrep/010/ag127e/AG127E09.htm>

Global Climate Change, sea level rise and ocean acidification are set and demand urgent actions



(Source: <http://projectavalon.net/forum/showthread.php?t=2601>)

ITTO has expertise and muscle to help recover and develop mangrove ecosystems for sustainable use and to mitigate Global Climate Change

- In the last 25 years, ITTO has funded 44 mangrove-related projects, formulated guidelines for the mangrove management and conservation, and contributed many other outputs
- Mangrove Conservation Program
- Yokohama Action Plan 2002–2006 (Action 4)
- ITTO Action Plan 2008–2011
- The ITTO Strategic Action Plan 2013-2018
- ITTO Biennial work program 2015–2016 on mangrove forests
- Collaborative Initiative for Tropical Forest Biodiversity 2011
- Children’s Environmental Education Program 2009–2011
- REDDES Program
- IDE Program
- An example involving mangrove-dwelling communities is the ITTO-funded Community-based Restoration and Sustainable Management of Vulnerable Forests of the Rewa Delta, Viti Levu, Fiji. PD 696/13 Rev.2 (F)

ITTO contribution with projects, up to 2015

Region (total)	Country	No projects	Region (total)	Country	No projects
West Africa (7)	Cameroon	2	Continuation		
	Congo	1	East Asia (14)	China	3
	Cote D'Ivoire	1		Japan (ISME)	11
	Gabon	1	Pacific Islands (1)	Fiji	1
	Ghana	1	Central America (9)	Guatemala	1
	Togo	1		Honduras	2
	Middle East (1)	Egypt		1	Mexico
South Asia (2)	India	2		Panama	3
South-East Asia (4)	Indonesia	2	South America (6)	Colombia	4
	Myanmar	1		Venezuela	1
	Thailand	1		Peru	1

36 projects have been completed (82%), four are operational (9%), three are pending finance (7%) and one is sunset (2%).
Source: ISME, 2015.

How big have been ITTO funding effort?

Number of mangrove projects funded by ITTO in five-year intervals		
Year	No. of projects	Allocated Funds (USD)
1990-1995	9	3,385,000
1996-2000	3	821,300
2001-2005	13	1,668,000
2006-2010	8	1,867,200
2011-2014	7	1,885,200
Total	40	9,626,700

Source: ISME, 2015

For the
action, we
have very
good
guides, for
example:

- The World Charter for Nature that the General Assembly of the United Nations proclaimed on 28th October 1982
- The Charter for Mangroves that ISME presented to the United Nations Conference on Environment and Development (UNCED) in 1992
- UNEP: The Importance of Mangroves to People: A Call to Action, 2014.

ISME presented a very good proposal to ITTO for mangrove related activities: six strategies and 12 practical actions

Strategy 1: Update the ITTO Mangrove Workplan 2002–2006

- Action 1.1: *Document and launch ITTO Mangrove Charter 2016–2020*
- Action 1.2: *Develop criteria and indicators for sustainable management of mangrove forests*

Strategy 2: Maintain, Expand and Improve Mangrove Information Outreach

- Action 2.1: Support existing mangrove information databases e.g. GLOMIS and TroCEP in collaboration with other organizations such as ISME and NIES
- Action 2.2: Package information on past and present ITTO-funded mangrove projects and their outputs for wider dissemination

ISME very good proposal to ITTO for mangrove related activities: six strategies and 12 practical actions

Strategy 3: Build Capacity for Sustainable Management, Conservation and Utilization of Mangrove Forests and Ecosystems

- Action 3.1: Conduct training courses on sustainable management and utilization of mangrove ecosystems, and on environmental education for sustainable development
- Action 3.2: Conduct environmental education field programs on mangrove ecosystems for children and accompanying parents

Strategy 4: Monitor the Status of Protected and Rehabilitated Mangrove Areas

- Action 4.1: Commission a study on the status of selected protected mangrove areas using remote sensing
- Action 4.2: Produce a manual for monitoring indicators of ecosystem recovery following mangrove rehabilitation

ISME very good proposal to ITTO for mangrove related activities: six strategies and 12 practical actions

Strategy 5: Establish the fact that mangrove forest plantations can be managed to supply wood on a sustainable basis

- Action 5.1: Showcase the success story of Matang in Malaysia, the largest tract of mangroves in the world that has been sustainably managed for wood production more than 100 years
- Action 5.2: Document the technologies for producing value-added wood products and by-products from planted mangrove forests

Strategy 6: Safeguard mangrove forest biodiversity by promoting non-timber forest products

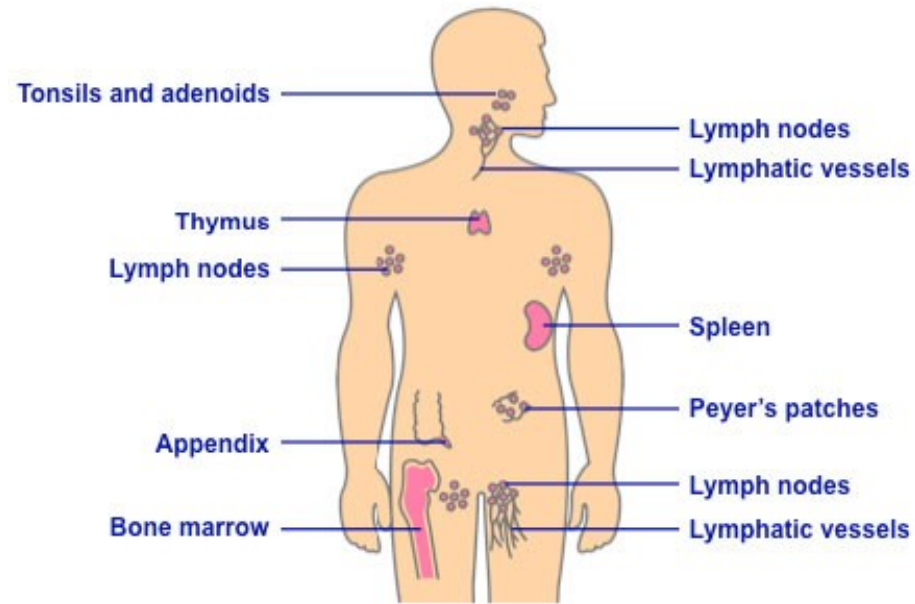
- Action 6.1: Review the current knowledge on the phytochemistry and pharmacological properties of mangrove plants based on scientific evidence
- Action 6.2: Document case studies of non-timber uses of mangrove forests and ecosystems

**What else
could be useful
for an
important
improvement
in performance
on sustainable
management
of mangroves?**

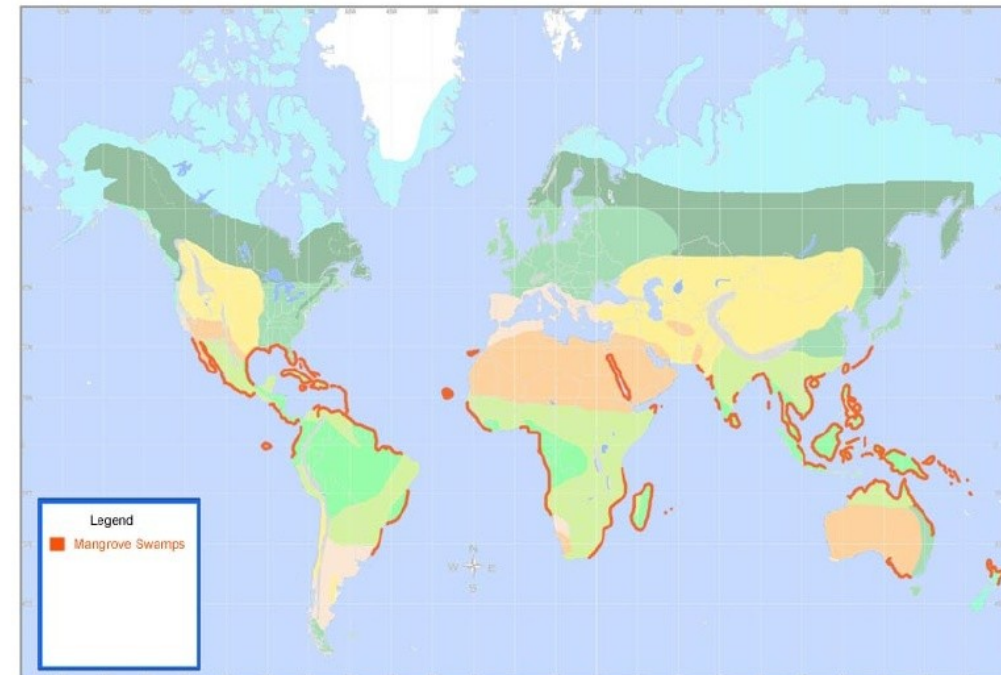
Lets think in a schematic way, just to highlight the importance of this tropical ecosystems:

“Our immune system is to our body like the mangrove ecosystems are to planet Earth”

Organs of the Immune System



Global distribution of mangroves



https://www.google.com.co/search?q=immune+system+organs&rlz=1C1NHXL_esCO721CO721&espv=2&source=lnms&tbn=isch&sa=X&ved=0ahUKEwjTyPf3q6LTAhVLNSYKHcEgBh4Q_AUIBigB&biw=1366&bih=613#imgrc=4aO9BXeeVIF-uM

https://www.google.com.co/search?q=world+wide+distribution+of+mangroves&rlz=1C1NHXL_esCO721CO721&espv=2&source=lnms&tbn=isch&sa=X&ved=0ahUKEwiv86SmrKLTA

What else could be useful to an important improvement in performance on sustainable management of mangroves?

1. To invest according with actual needs

Mangroves have roughly 13 million hectares

We need to invest at least UDS 10/hectare

2. We need to plan and prioritize actions for the short, medium and long term
3. We need to coordinate actions to be effective
4. We need to evaluate progress

What else could be useful to improve performance on sustainable management of mangroves?

- Stimulate the binding of social and economic research institutions to the formulation and implementation of long term mangrove projects aimed to improve quality of life and management of ecosystems with the mangrove inhabitants in each country or region.
- Carry out a rapid expert consultation to select, let say, the top 10 questions to be addressed regarding mangrove sustainable management by region and seek proposals to address them.
- Invite governments, research organizations and communities to present such prepared project proposals to the ITTO project cycle and to donor countries and agencies to fund them without delay.

Some questions that may help:

1. Do we really know, at decision making level and funding agencies, what are the local peoples priorities to use, restore, preserve and develop mangrove ecosystems?
2. It would be very useful to prepare a global coordinated agenda for action on mangroves, what are the options we have?
3. Who should lead a world (and regional) coordinated agenda on mangroves?
4. What would be the best roles of ITTO, ISME, IUCN, FAO, CIFOR, UNFF, UNEP, etc. in the previous regard and by their own mandates?
5. Can we model in the face of sea level rise escenarios, where we need to develop mangrove areas to protect people and to save biodiversity?

Conclusion S

- We need leadership, globally and regionally
- We need higher cooperation and coordination
- We need a short, medium and long term agreed action plan
- We need to invest wisely in mangrove ecosystems for a better life on Earth